COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Regional Office, 627 Main Street, Worcester, MA 01608

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

ELLEN ROY HERZFELDER
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

June 8, 2004

Whitewater, Inc.
P.O. Box 404
Auburn, MA 01501

ATTN: James Majewski
Title: Certified Operator

RE: PWS TOWN: STOW
PWSID#: 2286001
PWS NAME: Assabet Water Company
PROGRAM: CCE

Comprehensive Compliance Evaluation (CCE)
& Notice of Noncompliance
NON-CE-04-5D029

Dear Public Water Supplier:

Please find attached the following information:

Comprehensive Compliance Evaluation Report & Notice of Noncompliance

Please note the signature on this cover letter indicates formal issuance of attached document.

Very truly yours,

Paul R. Anderson
Section Chief
Drinking Water/Municipal Assistance
Bureau of Resource Protection

cc: DEP-DWP-CERO-File Copy
Board of Health (cover letter, Tables A & B)
DEP-DWP-Boston (no attachment)
DEP-DWP-CERO- DWP Correspondence File (no attachment)
DEP-Cheryl Poirier-CERO/BRP Enforcement Coordinator (cover letter & Table A)
DEP-Mike Maher-CERO/Office of Enforcement (cover letter & Table A)
DEP-DWP Enforcement Book Copy

File Name: Y:\DWP Archive\CERO\Stow-2286001-CCE-2004-6-08
W:\WS\DW PROGRAM FILES\CCE\REPORTS\FINAL CCE REPORTS\ Stow-2286001-CCE-2004-6-08

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STOW – 310 CMR 22.04 (12)
PWSID# 2286001
Assabet Water Company
Comprehensive Compliance Evaluation (CCE) Sanitary Survey Stage 1
Notice of Noncompliance
NON-CE-04-5D029

On April 6, 2004, a Comprehensive Compliance Evaluation (CCE), Sanitary Survey, Stage 1 of the above referenced public water system (PWS) was conducted by Andrea Lemerise of the Department of Environmental Protection (DEP), Drinking Water Program (DWP). The Assabet Water Company was represented by James Majewski, Primary Certified Operator, at the time of the inspection.

A CCE is a review of the technical, financial and managerial components (Capacity) of a public water system to determine (1) whether the system meets current drinking water requirements and, (2) if the system has developed appropriate plans to meet future requirements for the production and distribution of safe drinking water. Technical capacity refers to the physical infrastructure, managerial capacity refers to the management structure, and financial capacity refers to the financial resources of the water system.

Attached you will find the following:

1. A completed Comprehensive Compliance Evaluation Form – "Sanitary Survey Report"
2. DEP inspection "Findings"
3. Appropriate Compliance Plans:
   Table A-Violations,
   Table B-Deficiencies
   Table C-Recommendations
4. Sanitary Survey Compliance Plan Table A&B Response Form

During the course of the sanitary survey the Department discovered violation(s) of regulation or statute, that is, condition(s) in the source, facilities, equipment, operation and maintenance of the PWS which jeopardize the delivery of pure and safe water to all consumers (hereafter collectively referred to as "violations"). All violations found at the PWS are listed in Table A of the attached Compliance Plan. **Please note that the attached Compliance Plan is also a Notice of Noncompliance (NON) pursuant to M.G.L. c.21A, §16 and 310 C.M.R. 5.00.** Please review the items noted in the report and Compliance Plan. Please note that the NON requires, among other things, the submission of quarterly written progress reports on the identified violations.

Notwithstanding this Notice of Noncompliance, the Department reserves the right to exercise the full extent of its legal authority in order to obtain full compliance with all applicable requirements. Noncompliance with the terms of the NON may result in further enforcement action, including the assessment of

administrative penalties of up to $25,000 for each day after the effective date of the NON during which each violation continues or is repeated, or the issuance of a unilateral administrative order requiring the necessary corrective action within a reasonable time period. Noncompliance with the terms of such an order may result also in further enforcement action, including the imposition of penalties of up to $25,000 for each day after the effective date of the Order during which each violation continues or is repeated.

In addition to the violations summarized in Table A, the DWP has made note of several items that do not reflect good water system practice and, if left unresolved, could lead to problems that are more serious. Some of these items may be potential violations, and are summarized in Table "B" at the end of this report. Due to the item's severity or importance the DWP has included a required course of action with a compliance date. Other items with a recommended course of action with no compliance date are summarized in Table "C". Assabet Water Company is strongly encouraged to follow not only the required actions within the timeframe but also the recommended actions. Failure to do so could eventually lead to further violations of the regulations. The DWP looks forward to a timely completion of the required and recommended actions identified in the Findings and attached Compliance Plan Tables.

Regional DWP staff would like to take this opportunity to thank you for providing the necessary time and information to properly complete a survey of this complexity. The DWP staff in this region looks forward to working together with the responsible officials for your public water system to help you achieve and maintain compliance with the drinking water regulations and improve the overall quality of your system.

If you have any questions please contact Andrea Lemerise at 508-767-2723.

Enclosures: Comprehensive Compliance Evaluation-Sanitary Survey Stage I – DEP Inspection Findings
Compliance Plan – Table(s) & Response Form Signature Page

Additional Forms:

- Total Coliform Sampling Plan
- Public Water Supply Staffing Plan

FINDINGS

SYSTEM DESCRIPTION

PWSID	PWS NAME	TOWN NAME	CLASS	SUMMER	WINTER
2286001	ASSABET WATER COMPANY/HARVARD ACRES	STOW	COM	750	750

Assabet Water Company is a community public water supply located in the Town of Stow, Massachusetts and serves approximately 190 residential single-family homes in the Harvard Acres subdivision or a drinking water population of approximately 750 persons per day. The total daily flow averages about 65,000 gallons per day (gpd). A golf course clubhouse was connected to the system in November 2002, adding an estimated demand of 6,500 gpd to the system. The transmission line to the clubhouse has a meter. In 2003 water consumption for clubhouse functions ranged from 8,000-12,000 gpd.

There are two wells that provide drinking water to the Assabet Water Company. There has been confusion on the nomenclature for the two wells over the years because each well has served as the primary well at one time or another. The well names used in this report match the numbering at the well house and the numbers on record with MA DEP.

Well #2, currently the primary source for the Assabet Water Company, is located next to the emergency generator. It is an 18-inch diameter gravel-packed well with low iron. Manganese concentrations, however, exceed the secondary standard and are sequestered using an orthophosphate solution.

Well #1 is located inside the existing well house/office building, and has one pump installed in the 24-inch casing. Because of elevated concentrations of iron and manganese, Well #1 was historically used only in cases of high system demand or mechanical failure of the pump in Well #2. MPA testing performed in 1999 and 2000 showed a moderate risk of the well being influenced by surface water. MA DEP determined the well to be under direct influence of surface water on February 5, 2001, making Well #1 unusable without filtration and disinfection of the water.

Assabet Water Company is currently seeking a filtration system to treat Well #1 for iron and manganese and provide 2-log reduction of *Giardia* and Cryptosporidium in accordance with the Surface Water Treatment Rule, 310 CMR 22.20A. A pilot study permit application has been submitted to DEP for review. Whitewater proposes to construct and operate the facility (run to waste only) to evaluate the capability of the design since new technology approval from DEP was denied.

Well #3 a bedrock well is located between Wells 1 & 2. The new source approval process for this well was terminated due to low yield. This well is not functional; the pump was removed.

ADMINISTRATION

FACILITY INFORMATION:

PWS NAME	ADDRESS	TOWN	ZIP	FACILTY_ PHONE#	FACILITY_ FAX#	COMMENTS
ASSABET WATER COMPANY/HARVARD ACRES	ADAMS DR	STOW	01775	9783693644	5087648784	ASSABET WTR.CO. (508)369-3644 IS OWNED BY WHITEWATER INC.

MAILING INFORMATION:

PWS_MAIL_NAME	MAIL_LINE1	TOWN_NAME	MAIL_STATE	MAIL_ZIP_CODE
WHITEWATER INC.	P.O. BOX 404	AUBURN	MA	015010000

CONTACT/OWNER INFORMATION:

PWSID	First	MI	Last	TOWN	STATE	ZIP	WORK#	PRIMARY
2286001	JAMES		MAJEWSKI	AUBURN	MA	01501	8883777678	Y

PRIMARY OPERATOR MAILING INFORMATION:

PWSID	First	Last	ADDRESS_1	ADDRESS_2	TOWN	STATE	ZIP	WORK#
2286001	JAMES	MAJEWSKI	WHITEWATER INC.	PO BOX 404	AUBURN	MA	01501	8883777678

SYSTEM CLASSIFICATION: 310 CMR 22.11B

PWSID	DISTRIBUTION_CLASS	POPULATION_SERVICED
2286001	I-D	750

PWSID	MaxOfTREATMENT_CLASS
2286001	I-T

The Department has reviewed the classification status of the Assabet Water Company's Distribution System and has determined that a system serving a population of 750 residents is rated as a Class I-D system.

The Department has reviewed the classification status of the Assabet Water Company's Treatment Operations and has determined that the due to the type of treatment provided Assabet Water Company is rated as a Class I-T system.

CERTIFIED OPERATOR: 310 CMR 22.11B

Assabet Water Company currently **does not meet** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Under 310 CMR 22.11B(1), every public water system shall be operated at all times that the facility is in operation, by a primary operator, unless otherwise authorized by the Department.

Assabet Water Company is required to support as a minimum, the following operational staff:

a. One distribution operator serving as the primary operator who holds a Grade I-D license. The primary operator is directly responsible for the operation of the distribution system. The primary operator must be present five days a week and be available to respond to emergencies within one hour at all other times.

b. A secondary distribution operator holding a minimum of a Grade I-D license must be designated to serve as the primary operator in his or her absence. (i.e., during vacations, sick leave, etc.)

c. One treatment operator serving as the primary operator who holds a Grade I-T license. The primary operator is directly responsible for the operation of the treatment facility. The primary operator must be present five days a week and be available to respond to emergencies within one hour at all other times.

d. A secondary treatment operator holding a minimum of a Grade I-T license must be designated to serve as the primary operator in his or her absence. (i.e., during vacations, sick leave, etc.)

Assabet Water Company is presently operated by the following licensed operators:

PWSID	First	MI	Last	POSITION	GRADE	LICENSE#	PRIMARY AFFILIATE
2286001	JAMES	W	MAJEWSKI	OPERATOR	T3/D3	6088/2764	Y
2286001	MATTHEW	J	BACINSKAS	OPERATOR	T1/D1	9911/8698	N
2286001	CARLOS		SANTA	OPERATOR	D1	7163	N

- Note that with the prior written approval of the Department, public water systems classified as a 1D or 1T facility or less may reduce the staffing requirements of 310 CMR 22.11B(1) and (2) by operating the facility on a part-time basis.
    - Public water system seeking a reduction in the staffing requirements shall be subject to the conditions listed at 310 CMR 22.11B(5)(a)1. through 5. and (5)(b). The Primary and Secondary Operators or both may be allowed to operate the treatment facility or distribution system on a part time basis.
    - Staffing and Comprehensive Operations Plan: Public water systems requesting an exemption under 310 CMR 22.11B(5) shall submit to the Department for review and approval a staffing and comprehensive operations plan for said system and/or facility.
- **Assabet Water Company must submit a revised Public Water System Staffing Plan for DEP review and approval.**
- According to the Massachusetts Board of Registration http://license.reg.state.ma.us/publ.ic/licque.asp?color=red&Board=DW the certification status of the drinking water operators listed are current; **however are reported incorrectly on the 2003 annual statistics report. According to the Board of Professional Licensure, the licenses for Carlos Santa and Matthew Bacinskas are "Operator In Training (OIT)" not Full status.**

Please be advised, all licensed operators are required to have minimum hours of Continuing Education Units (CEUs) or Training Contact Hours (TCHs) in order to renew their licenses. For the purposes of these operator license renewals, 1 CEU is equivalent to 10 TCHs. Grade I and II licenses require 10 TCHs. Grade III and IV licenses require 15 TCHs. VSS and VND licenses require 5 TCHs. DEP will accept most courses related to the job that grants continuing education credits. In addition, DEP will grant 1 TCH per year for belonging to American Water Works, New England Water Works, and Mass. Water Works, and 0.5 TCH for belonging to Western Mass. Water Works, up to a total of 3 TCHs per year.

MANAGEMENT: 310 CMR 22.04 & Ch. 11 Guidelines & Policies

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

As part of the 1996 Amendments to the Federal Safe Drinking Water Act, DEP must evaluate public water systems for "capacity". Capacity is the ability of a public water system to plan for, achieve, and maintain compliance with applicable federal and state drinking water standards for the foreseeable future. There are three areas in which a water system must demonstrate effective controls: technical, managerial, and financial. Adequate capability in all three areas is necessary for a system to be determined to have "adequate capacity." A system's capacity rating may affect a public water systems' eligibility to receive funding for water projects through the Drinking Water State Revolving Fund (DWSRF) Program.

The Department's "2001 Guidelines and Policies for Public Water Systems" now includes guidelines on management and financial capacity in addition to the technical guidelines. **All water systems should refer to and comply with the applicable requirements in Chapter 11 of the 2001 Guidelines and Policies for Public Water Systems (http://www.state.ma.us/dep/brp/dws/files/guides/guides.htm) in order to achieve and maintain "adequate capacity."**

Chapter 11 addresses many topics such as authority and responsibilities, standard operating procedures, policies (water connections, water conservation, leak detection, etc.), capital improvement and master plans.

The owner and certified operator are responsible for emergency operations and communications with DEP. The owner(s) and/or trustee(s) of the facility are ultimately responsible for compliance with all public water system regulations and policies.

FINANCIAL: 310 CMR 22.04 & Ch. 11 Guidelines & Policies

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

As noted in the Management Section above, DEP must evaluate public water systems for "capacity", which includes the financial capability to maintain compliance with applicable federal and state drinking water standards for the foreseeable future. A system's capacity rating may affect a public water systems' eligibility for DWSRF loans. As stated above, **refer to and comply with the applicable requirements in Chapter 11 of the 2001 Guidelines and Policies for Public Water Systems in order to achieve and maintain "adequate capacity."** Chapter 11 addresses many topics that relate to financial aspects of the water system such as water rates, water service fees, accounting and budgeting.

Assabet Water Company's present annual operating budget was not made available at the time of the inspection. However, the certified operator reports that funding is in place for a major capital investment (filtration plant) by the Assabet Water Company, which suggests that planning for system improvements and financing methods are sufficient for operation of the water system in its present status.

OPERATION & MAINTENANCE:

DEP recommends that a formal written maintenance schedule be established. At a minimum the schedule should include the time and frequency of the following items:

a. Master meter inspection and calibration every year.
b. Periodic inspection and calibration of the pump controls.
c. Preventative maintenance on all pumps based on manufacturer's recommendations.
d. Valve & fire hydrant maintenance.
e. O & M manuals for all pieces of equipment as well as 'as-built' drawings of each facility should be

kept on site or readily available at the office.

f. The storage tank should be drained, inspected, and cleaned at least every five years.
g. Leak detection should be performed every five years; two years for systems that have a WMA permit (use >100,000 gpd).
h. Inventory of pipeline repair materials on hand or available within 6 to 12 hours. (There should be enough couplings and repair bands to repair two breaks on each size and type of pipe.)

A review of Assabet Water Company's records show:

- Maintenance records are being maintained by staff at the Southbridge office. Work orders are generated from the Southbridge office.
- Spare parts inventory is adequate to prevent long delays in equipment repairs.
- Operation details are posted for operator daily use for maintenance.
- O&M manual does provide guidance for operational decisions. **However, the O& M manual needs to be available at the Assabet Water Company office. A copy of the manual can be kept at the Southbridge office.**
- Adequate resources are available for operation and maintenance (e.g., outside support, contractors).

SOURCE INFORMATION:

310 CMR 22.04, 22.21 & Ch. 3&4 Guidelines & Policies

WATER SOURCES:

PWSID	#Sources	%_GROUND	YEAR	Ave_Daily_Demand_(MGD)	MAX_DAILY_DEMAND (MG)
2286001	1	100	2002	0.062268	0.069
2286001	1	100	2001	0.059378	0.088
2286001	1	100	2000	0.064120	0.104

The Assabet Water Company is currently supplied by **one source** (Well #2), which provides approximately 62,000 gallons per day (gpd) to the public water system. Well #1 is inactive because it has been determined to be groundwater under direct influence of surface water. A treatment facility is pending DEP approval.

GROUNDWATER SOURCES:

SOURCE ID	SOURCE NAME	LOCATION	AVAIL ABILITY	WELL_ TYPE	DEPTH	PUMP_ SETTING	COMMENTS
2286001-01G	GP WELL # 1	TREATMENT BLDG:SW COR	INACT	GP	28	0	APPROVED YIELD IS COMBINED 01G & 02G, BACK UP USE 50 GPM
2286001-02G	GP WELL # 2	CONCRETE VAULT: SOUTHEAST PROPERTY	ACTIVE	GP	31.3	21	APPROVED YIELD IS COMBINED 01G & 02G YIELD, INST 1978 70GPM

Source Comments:

Well #1 is located within the pumphouse. Well #2 is located in a pit. **The access hatch to Well #2 needs to be made watertight. The hole in the well pit cement cover must be repaired. The well pit must be properly vented and screened. Drains from the well pit need to be located and properly screened to prevent animal entry.**

PUMP STATIONS: 310 CMR 22.04 & Ch. 7 Guidelines & Policies

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Department records show the Assabet Water Company has the following total pumping capacity:

PWSID	TOTAL PUMPING CAPACITY (GPM)
2286001	60

The Assabet Water Company has the following pump stations:

PWSID	PUMP_STATION_ NAME	STATUS	AVAIL ABILITY	GP M	EMERG_ POWER?	MOTOR HP	MOTOR_ TYPE
2286001	WELL # 1 PUMP STATION	A	INACTIVE	75	N	0	SUBMERSIBLE
2286001	WELL #2 PUMP	A	ACTIVE	75	N	5	SUBMERSIBLE

- Floor drains are not located in pump station areas.

Pump Station Comments: A new 5 hp submersible pump was installed in Well #2 in February 2004. The pump is rated at 75 gpm and set at a depth of 21 feet. However, the pumping capacity is limited to 60 gpm (0.086 MGD) because of system head pressure. The original pump for this well is being repaired and will soon be available as a spare pump. Well # 1 has a submersible pump installed (motor hp unknown) with a capacity of 75 gpm. Three chemical feed systems are located within the pump house. The polyphosphate injection occurs in the pump house, but the injection ports for KOH and chorine are in a pit outside and on the discharge line from the pump house.

INTERCONNECTIONS TO OTHER APPROVED WATER SYSTEMS: 310 CMR 22.12

Assabet Water Company does not maintain interconnections with other approved public water system. The Department recommends that possible future interconnections with neighboring municipal water systems be investigated. Current infrastructure does not allow an inter-connection in an emergency. The closest public water supply is Maynard Water Dept. PWSID#: 2174000. This system is approximately 2-3 miles from Assabet Water Company.

WATER TREATMENT:

310 22.15 & Ch. 5 & 6 Guidelines & Policies

Assabet Water Company currently **does not meet** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

- The Assabet Water Company does routinely submit chemical treatment report(s) to the Department each month. The report includes the name of the source, the name of the chemical, the amount added, the resulting concentration of the chemical in the water (if applicable), and the reason for adding the chemical to the water supply.

- The Assabet Water Company does maintain copies of these chemical treatment reports on file for at least 5 years.

- The Assabet Water Company does not need a SOP for bulk chemical deliveries because all chemicals are received in drums.

TREATMENT PLANT:

The Assabet Water Company has the following active treatment plant information listed within Department records:

PLNT/SRCE ID	PLNT/SRCE NAME	PLNT AVAIL	PLANT_ CAPACITY(MGD)	TREATMENT_ CLASS
2286001-01T	ADAMS DRIVE GPW #1 & #2 TREATMENT PLANT	ACTIVE	0.086	I-T

A total of 60 gpm (0.086 MGD) can be pumped against system head pressure.

TREATMENT PROCESS:

The Assabet Water Company has the following active treatment process information listed within Department records:

PLNT/SRCE ID	PLNT/SRCE NAME	PLNT AVAIL	OBJECTIVE	PROCESS	CHEMICAL_ NAME	COMMENT
2286001-01T	ADAMS DRIVE GPW #1 & #2 TREATMENT PLANT	ACTIVE	CORROSION CONTROL	PH ADJUSTMENT	Potassium Hydroxide	
2286001-01T	ADAMS DRIVE GPW #1 & #2 TREATMENT PLANT	ACTIVE	DISINFECTION	HYPOCHLORINATION, POST	Sodium Hypochlorite	
2286001-01T	ADAMS DRIVE GPW #1 & #2 TREATMENT PLANT	ACTIVE	IRON REMOVAL	SEQUESTRATION	BLENDED PHOSPHATE	Caliciquest Poly Plus

The discharge line from Well #2 comes through the floor of the pump house of Well #1. (Well #1 is currently off-line.) There is a raw water tap, a flow switch, pressure gage, and Signet flow recorder (not yet operational). Calciquest is injected next followed by a tap, flow switch and the line exits the pump house. Potassium hydroxide (45%) and sodium hypochlorite are injected into the discharge line in a pit located approximately 45 feet form the pump house. Further along the discharge line is the "100-foot" finished water sampling station (self-draining to prevent freezing) that rises above ground surface. This tap has a threaded spigot, which cannot be fitted with a hose bib because that would not allow the tap to drain properly.

There is approximately a 75-foot linear separation between the phosphate injection point and pH adjustment. There is no in-line pH measurement. The operators measure the pH and orthophosphate concentration at the 100-foot sampling station during every daily visit. The new filtration plant will include in-line pH measurements and alarms.

SOPs are posted in the pump house for each treatment process. Included are the target levels for the point of entry to the system: chlorine residual 1.0-1.6 ppm, pH 7.2-7.4, phosphate residual 0.1-0.2 ppm and pressure 50-60 psi.

Current water quality parameter testing is as follows (per DEP letter dated 1/29/2001):

1. Distribution system: samples for pH, alkalinity, calcium, temperature and phosphate residual analysis collected on a monthly basis.
2. Point of entry: samples for pH, temperature, and phosphate residual analysis collected on a daily basis. Samples for alkalinity and calcium analysis will be collected on a monthly basis.

The Department will be reviewing the WQP testing program in the near future and will likely make changes to parameters and frequency of monitoring.

As noted above, there are two flow switches: one for the phosphate feed system and a second for the chlorine and hydroxide feed systems. Chemical feed pumps are calibrated monthly.

The following deficiencies were noted during the inspection:

1. The feed line to eyewash station is not raw water but is after the phosphate injection point.
2. Confirm in writing that there is a flow interlock for the chemical feed systems
3. Inadequate containment for each chemical
4. No emergency shower – to be provided in WTF
5. The access hatch for the chemical injection pit has rusted to a point where it is no longer attached to at the base. This is poses a significant safety risk to the operators, a risk to the water system (sole transmission line could be damaged if the cover were to collapse into the pit), security risk to the water system, and liability from trespassers. The access hatch must be replaced and made watertight. Delaying this improvement until the water treatment plant is constructed is not acceptable.
6. The chemical injection pit must be reconstructed for several reasons:
    - The cement block structure for the chemical injection pit is collapsing and must be rebuilt.
    - The chemical injection pit was flooded at the time of the inspection.
    - There is a piping restriction (4-inch to 2-inch water line)
    - The transmission main is in poor condition – a slow leak was observed
    - The condition of the access hatch (as noted above) prevents daily inspection.
7. No in-line/continuous pH monitoring system or alarm capabilities – to be provided in WTF

DISTRIBUTION

Distribution Maintenance: 310 CMR 22.19 & Ch. 9 Guidelines & Policies

Assabet Water Company currently **does not meet** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

- Assabet Water Company currently maintains 185 service connections.
- Water pressure at street level does meet the minimum 20-psi to all service connections. **However, there have been events of low pressure in the system.** The Department recommends that the minimum working pressure in the distribution system should be 35 psi and the normal working pressure should be approximately 60 psi.

- The distribution system has service area(s) with the following operating pressure ranges:

Service Area (e.g. low, high)	Pressure (psig)
Pump house	Ave. 60
Tank	Min. 20
Dunster Drive	Ave. 32

- The distribution system is approximately made up of the following pipe types:
    - 200 feet of 4-inch ductile iron
    - 19,240 feet of 6-inch and 8-inch AC
    - services are copper and galvanized steel

- The system **does not** have a cleaning/relining program.

- List distribution system weaknesses or problems (e.g., excessive breaks, freezing, corrosion, river crossings): None

- The system **does not** flush dead ends on a periodic basis. Previous owner would conduct flushing program semiannually and when water color complaints were received. Hydrants are available for flushing. No flushing program is planned because only one well is currently available and flushing would drain the tank. A water ban has been in effect for past 2 years, no flushing has occurred.

- Assabet Water Company filed a waiver for asbestos sampling in the distribution system in 1995, however the certified operator has discovered new information that indicates that asbestos cement (AC) pipe may have been used in the distribution system. **The waiver for asbestos sampling is hereby revoked until a final determination can be made.** Please continue to research available records **Asbestos sampling must now be included on your sampling schedule. For a public water system serving less than 1,000 people, one (1) sample, at a tap downstream from the oldest part of the AC pipe where the flow is sufficient to clean the pipe of debris, is required as the initial sample.** The Department does not recommend that samples be collected after recent pipe tapping or from dead ends or fire hydrants due to laboratory related difficulties in reading analysis of samples with high sediment levels. **Submit to the Department the location that best meets the criteria above for inclusion on your sampling schedule for asbestos monitoring. In addition, try to determine if the system contains any vinyl-lined AC pipe based on available records.** For your information vinyl-lined pipe was manufactured during the 1970's. **If you are unable to determine whether vinyl-line AC pipe was used in the distribution system, then identify a sampling location at each dead end in the distribution system for tetrachloroethylene (PCE) monitoring and report those locations to the Department. These locations are to be sampled once to establish a baseline and may be included in the sampling schedule for your system in the future.**

- Assabet Water Company does have an adequate leak detection program, however **Assabet Water Company must take steps to address high unaccounted for water**. The amount of unaccounted for water for a well-run system should be below 10% of total water consumption, and should remain under 15% at all times. Systems with greater than 15% of unaccounted for water should conduct a full leak detection survey every two years; identified leaks should be repaired as soon as possible.

  Based on the information provided in the 2002 Annual Statistics Report, approximately 2 million gallons were lost to leaks in 2002, 1.5 million gallons were unaccounted for due to faulty meters, and 250,000 gallons were lost due to overflow of the tanks "in order to maintain system pressure". This translates into 16 % unaccounted for water. Assabet Water Company did conduct a leak detection survey of 100% of the system late 2002/early spring 2003, which is commendable. Six service leaks were identified and repaired. However, unaccounted for water remained high at 37% for 2003.

  During the survey the Department was informed that high/low water level alarms were

installed on the water storage tanks when Whitewater purchased the water system in 2000. The alarms when activated utilize an autodialer for surveillance 24 hours a day. Installation of these alarms is one step to minimize the frequency of an overflow situation and thus water losses at the tank; however, overflows were necessary in 2002 (as noted above), which indicates more critical system problems. **Corrective actions need to be identified and implemented to address system pressure and overflow problems.**

A meter replacement program must be instituted. Assabet Water Company plans to install radio read meters because it has determined that new service meters are necessary.

The accuracy of the master meter is also questionable. Assabet Water Company plans to replace the master meter when the proposed water treatment facility is constructed.

- Last Date of Leak Detection Survey: 2002/2003 and percentage surveyed: 100%.

PWSID	YEAR	POP_SUMMER	POP_WINTER	UNACCOUNTED USE (MGY)	ANNUAL DEMAND (MGY)	% UNACCOUNTED
2286001	2002	750	750	3.75	22.728	16
2286001	2001	750	750	5.3244	21.673	24
2286001	2000	750	750		23.404	
2286001	1999	750	750		23.821	
2286001	1998	750	750		28.66	
2286001	1997	750	750		29.082	

- **Assabet Water Company has not submitted an updated water distribution map to DEP.**

- **The Assabet Water Company must submit a copy of an updated water distribution system map to the Department. The map should include locations of: property boundaries, water sources, distribution system piping, water storage, buildings, roads, driveways, septic system/wastewater treatment facilities, dry wells, and fuel oil storage.**

STORAGE: 310 CMR 22.04 & Ch. 8 Guidelines & Policies

Assabet Water Company currently **does not meet** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Department records show the Assabet Water Company has the following total water storage capacity:

PWSID	TOTAL STORAGE CAPACITY (MG)
2286001	0.08

The Assabet Water Company has the following water storage tanks and capacities:

PWSID	STORAGE TANK NAME	LOCATION	AVAIL ABILITY	CAPACITY (MG)	INSTALLATION_ DATE	MATERIAL	STORAGE TYPE
2286001	STORAGE TANK #1	DUNSTER AVE	ACTIVE	0.04	1960s	STEEL	GROUND LEVEL STORAGE TANK
2286001	STORAGE	DUNSTER	ACTIVE	0.04	1960s	STEEL	GROUND

TANK #2 AVE	LEVEL STORAGE TANK

- **Each tank vent and overflow pipe must be separate and properly screened.**
- All sewers, drains, standing water are kept at least 50 feet from tank.
- **The storage tanks are not fenced and thus are not adequately protected against vandalism.**
- The water level in the storage tanks are controlled by high/low telemetry alarms.
- Only the back storage tank can be isolated from the distribution system for repair or cleaning without interruption of service. **Provisions need to be made to allow for isolation of each tank individually.**
- The primary purpose of the tank is to provide water pressure.
- All water storage tanks are covered and locked so as to adequately protect the water from contamination.
- There is no telecommunications equipment installed on or near the tanks.
- The storage tanks have a corporation on each 8-inch feed line which can be used for emergency disinfection.
- **Only the front storage tank has a sampling tap installed to allow monthly bacteria testing as required.**
- **The current storage is not adequate to serve the system if the primary well was unavailable. See comments in Water Quantity section below.**

At a minimum, the Department recommends that all water storage tanks be drained, inspected and cleaned every 5 years.

- The Assabet Water Company plans to inspect the water storage tanks in 2004; $10,000 was included in the WTP project to be used to clean/inspect the tanks.
  - The last time the tanks were inspected is: Unknown.
  - Condition (structural integrity) of tanks: Fair – needs exterior painting.
  - The last time the tanks were cleaned is: Unknown. Tanks cannot be removed from service at this time because only one well is in service.

- **The Assabet Water Company currently does not routinely drain or inspect its water tanks.**

- **The Assabet Water Company has no record of its last water storage tank inspection.**

CROSS CONNECTION & BACKFLOW PREVENTION: 310 CMR 22.22

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

PWSID	DEP APPROVED X-CONN PLAN?	X-CONN SURVEY CONDUCTED?
2286001	Y	Y

- The system does have an approved cross connection program plan on file.
- The system has had 100% of its distribution system surveyed for cross connections by a Massachusetts certified cross connection surveyor.
- The last cross connection survey was conducted: 1996 (also scheduled for June 2003). **Submit copy of 2003 survey report to DEP.**
- The system has not delegated its cross connection implementation plan to a 3rd party; Russell Tierney and Dana McGovern, both of WhiteWater, Inc. perform the tests and survey.

- The following individual is listed at the Cross Connection Control Coordinator for the system: Russell E. Tierney.
- The following Massachusetts certified Cross Connection Control Surveyor approves design plans and performs surveys for the system: Russell E. Tierney, license # 31476.
- The system does review and approves design data sheets and plans for proposed new installations of reduced pressure backflow preventers (RPBPs), double check valve assemblies (DCVAs), and air gap separations with tank and pump arrangements in accordance with 310 CMR 22.24(4)(b).
- The system does ensure, upon completion of installation, that backflow prevention devices are installed according to the approved design data sheets and plans and are tested for proper operation in accordance with 310 CMR 22.22(4)(b).
- Hose bibs have been installed on all outdoor faucets of PWS owned facilities to minimize contamination due to backflows.
- The system has installed all required back flow prevention devices as described within the cross connection survey report, including PWS owned facilities.
- The system annually reports its cross connection activities of the previous year within its 'Annual Statistical Report'. These activities include:
    - A list of all cross connections protected by an approved double check valve assembly or approved reduced pressure backflow preventer devices;
    - The numbers and types of facilities surveyed yearly; and
    - The number type and location of violations found.
- The system does routinely tests all installed back flow prevention devices as described within the cross connection survey report.
    - double check valve assemblies (DCVA) once per year
    - reduced pressure backflow prevention devices (RPBPD) twice per year
- The system has notified all device owners of their responsibilities relative to cross connection control.
- The system does annually notify consumers of water and local public officials of the requirements of the distribution system cross connection control program.
- The system has established and maintained an active cross connection control program for residential users, as required, which includes an educational component.

The system currently has one Reduced Pressure Backflow Prevention Device (RPBPD) for the commercial service connection to Wedgewood Pines Country Club on Harvard Road. A Watts Model 009M1QT, 1.5-inch RPBPD provides containment and is located in the Basement Mechanical Room of the clubhouse. The installed device was tested in 2003.

EMERGENCY POWER:

310 CMR 22.04 & Ch. 2 Guidelines & Policies

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

- Power is supplied by the local utility and is very reliable.
- Power outages over the last ten years have been few and very short in duration.
- During a power outage Assabet Water Company:
    - Relies on the storage tanks for supply and pressure, which is able to supply the average daily demand for up to 24 hours.
    - Relies on backup power provided by 1 portable, propane generator, which is stored off-site and can be connected for use within 1.5 hours.
        - The existing on-site back-up generator located in a shed next to Well #2 has not been maintained and is inoperable at this time.

- The Department recommends that back-up generators be tested at a monthly minimum frequency.
- A new on-site generator is included in the plans for the new water treatment facility.

EMERGENCY PLANS:

310 CMR 22.15

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

- Assabet Water Company has completed and submitted a copy of the updated Emergency Response Plan Directory in its 'Annual Statistical Report' containing names and phone numbers of contacts should a water emergency occur. Any future changes to the information should be submitted each year with the annual statistics report.

Emergency Disinfection (community systems):

- Assabet Water Company does have the ability to disinfect its sources and distribution system in emergency situations. The system currently employs continuous disinfection using sodium hypochlorite.

Water Use Restrictions: 310 CMR 22.15(8) & 310 CMR 36.00

- Assabet Water Company has adopted its own water conservation restriction by-law/ ordinance in order to enact and enforce mandatory conservation restrictions. Water company regulations.

PWSID	PWS NAME	CONSBYLAW
2286001	ASSABET WATER COMPANY/HARVARD ACRES	YES

  - The implementation of mandatory measures requires notification to the Department within 48 hours of its imposition and within 48 hours of its termination. This form may also be used to report the implementation of voluntary water restrictions. Refer to **DEP Water Use Restriction Survey** notification form at http://www.state.ma.us/dep/brp/wtrm/wtrmpubs.htm

  - The implementation of any water restrictions during the calendar year must be reported each year on the annual statistics report.

  - The Department recommends that all public water systems plan for, adopt and implement water conservation measures to better manage and reduce water demand. Contact the Department for information and guidance on water conservation and drought contingency planning. The following websites also contain some helpful information:
    - **Water Conservation Plan for Public Water Suppliers.** http://www.state.ma.us/dep/brp/wtrm/wtrmpubs.htm. Water Resource Commission / DEM format for a water conservation plan. It is a component of DEP Site Screening and Request for Site Exam permits. This form is also used in Water Management Act reviews, applications and submittals.
    - **Drought Triggers for Well Sources:** Monitor and record static groundwater levels and groundwater pumping levels or well yields of the key well or well in each wellfield. www.dep.state.pa.us/dep/subject/hotopics/drought/emergrules/DT_GW.htm
    - **Tips for Saving Water Indoors and Outdoors** can be found at

www.state.ma.us/dep/brp/wtrm/files/fsusers.pdf

- **Conservation Tips for Community Water Suppliers** can be found at www.state.ma.us/dep/brp/wtrm/files/fssuppl.pdf

Security:

The Department requires each public water supplier to develop its own Emergency Response Plan. To assist water supply personnel in providing safe and continuous service, the DEP has prepared a handbook http://www.state.ma.us/dep/brp/dws/files/emerhdbk.doc for water supply emergencies that focuses on the basic procedures for handling such situations. This document will help public water suppliers assess the vulnerability of their systems and their preparedness in confronting unexpected circumstances. Please contact Paul Niman at 617-556-1166 on questions regarding DEP recommendations for security or emergency preparedness.

Examples of a water emergency would be loss of source(s) (either due to lack of water or contamination), pump failure, power failure, treatment failure, storage tank failure, or water main break.

Additional information on security measures and emergency preparedness can be found at the following websites:

- Association of State Drinking Water Administrators & NRWA: Security Vulnerability Self-Assessment Guide for Small Drinking Water Systems, May 30, 2002 http://www.asdwa.org/mem_info/committees/cipinfo/6-02/5-31%20draft%20latestv3.pdf
- EPA Water Infrastructure Security: What is Being Done to Protect the Nation's Water Infrastructure? http://www.epa.gov/safewater/security/
- EPA Guidance for Water Utility Response, Recovery & Remediation Actions for Man-made and/or Technological Emergencies http://www.epa.gov/safewater/security/er-guidance.pdf
- EPA Alert on Chemical Accident Prevention & Site Security: http://www.epa.gov/ceppo/pubs/secale.pdf
- U.S. Centers for Disease Control & Prevention: Public Health Emergency Preparedness & Response http://www.bt.cdc.gov
- Association of Metropolitan Water Agencies: http://www.amwa.net/isac/amwacip.html
- American Water Works Association: http://awwa.org
- National League of Cities: http://www.nlc.org

WATER QUANTITY:

310 CMR 22.04 & 22.21

Assabet Water Company currently **does not meet** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Assabet Water Company pumped the following total volume of water from its sources during the time periods below (information provided by annual metered withdrawal recordings submitted to DEP):

PWSID	YEAR	POP	UNACCOUNTED USE (MGY)	ANNUAL DEMAND (MGY)	% UNACCOUNTED
2286001	2002	750	3.75	22.728	16
2286001	2001	750	5.3244	21.673	24
2286001	2000	750		23.404	
2286001	1999	750		23.821	
2286001	1998	750		28.66	
2286001	1997	750		29.082	

- **Assabet Water Company currently does not maintain it's unaccounted for water use below the recommended 15%.**

- Assabet Water Company does not have Department approved pumping rates (based upon either DEP approved pumping tests or DEP approved Zone II rates) for all of its sources of supply; however the water supply has not experienced a lack of water quantity and is able to meet system demand at this time.

- Assabet Water Company sources withdrew the following average volumes of water during the last calendar year reported from active sources of supply. (Information provided by annual metered withdrawal recordings in MG units of measure, then averaged over 365 days). The results may generally be compared to the Approved Volume in (MGD) for groundwater sources. However this table does not include maximum day use information from each source. Refer to individual annual statistical reports to determine if maximum day withdrawals are within new source approval permitted volumes.

SOURCE ID	SOURCE NAME	Groundwater_ Approved_ Volume(MGD)	Safe_ Yield(MGD)	Gallons Produced (MGY)	LAST YEAR AVERAGE (MGD)	COMMENTS
2286001-02G	GP WELL # 2	0.085	0	22.7283	0.062269	APPROVED YIELD IS COMBINED 01G & 02G YIELD, INST 1978 70GPM

- Assabet Water Company **is not** currently capable of producing the same volumes and quality of water as the system's primary well at all times by:
  - additional wells and pumping equipment; or
  - providing the storage capacity equivalent to the demand of at least two average days; or
  - an interconnection with another public water system that can adequately provide the quantity and quality of needed water.

  However, Assabet Water Company has submitted a permit application to install filtration for Well #1 so that it may be used as an additional well that can provide the quantity and quality of needed water.

- Assabet Water Company has implemented voluntary water bans within the last two years.

- Assabet Water Company has implemented mandatory water bans or conservation restrictions within the last two years.

- Assabet Water Company has not requested a Water Emergency Declaration (UAO) from the Department with the last five years.

- Assabet Water Company has experienced water quantity problems: as noted previously the system is functioning with only one well in operation. Voluntary water ban also in July 1999 due to demand exceeding capacity.

WATER MANAGEMENT ACT (WMA): 310 CMR 36.00

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

- Assabet Water Company is not subject to the Water Management Act at this time, as the combined potable and non-potable water withdrawals on the property are below the 100,000 gallons per day threshold.

METERS: 310 CMR 22.04

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

As of December 31, 2001 all water systems must install meters at locations sufficient to record each system's total production of water from all sources, including water purchased from and/or sold to other public water systems (310 CMR 22.04(6)).

The Department recommends that meters be calibrated on an annual basis. Meter readings for each source must be recorded at the end of each month. However, if the system adds chemicals to the supply, daily meter readings are required (on monthly chemical treatment report). Monthly water withdrawal information for each calendar year must be reported to the Department within the Assabet Water Company's "Annual Statistical Report".

According to information provided to the Department, the Assabet Water Company's system is currently metered at the following percentage:

PWSID	PERCENT METERED
2286001	100

- A master meter located within the pumphouse measures the total water withdrawal from the manifolded sources. It is unknown when this meter was last calibrated. **The Department recommends that master meters be calibrated annually.**
- Assabet Water Company plans to install new radio read meters on all services in 2004.

WATER QUALITY

GENERAL

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

- The system does maintain a complaint tracking log. The Department recommends that all system maintain such a log.
- The system has experienced water quality problems or complaints during the past year. Colored water and low pressure.
- The system has investigated the cause of the problems or complaints.
  - List corrective actions taken: Discovered that the transmitter at the tank froze so that inaccurate tank level measurements were relayed which controls operation of the well pump. Also the capacity of the well was decreasing which caused Assabet Water Company to install a new pump in Feb. 2004. Also discovered the a POU cartridge filter was the cause of one customer's observed low water pressure.

TOTAL COLIFORM RULE: 310 CMR 22.05

Assabet Water Company currently **does not meet** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

- Bacteria sample results are required to be submitted to the DEP by the 10th day of the following month. Assabet Water Company is required to sample for total coliform bacteria at the following frequency:

PWSID	NO BACTERIA SAMPLES	BACTERIA SAMPLE FREQ
2286001	4	MONTH

- The system does have an approved Total Coliform Sampling Plan.
- The system **is not** reporting coliform sampling location codes or sample types accurately on its DEP report form submittals
- **The Total Coliform Sampling Plan does have to be updated.**
    - If a system collects more than one routine sample per month, no fewer than three (3) repeat samples must be collected for each total coliform-positive sample found. The Total Coliform Sampling Plan reflects RS, UR and DR sites for each sample location.
    - If a system conducts treatment, source water samples (RW) and **entry-point finished water samples (PT) must be included in the Total Coliform Sampling Plan and sampled a minimum of once per month.**
    - Atmospheric storage tanks must be included as routine sample (RS) sites in the Total Coliform Sampling Plan and sampled a minimum of once per month.
    - **As part of its Total Coliform Sampling Plan the system must submit an updated map of its distribution system, which shows the locations of the bacteria sampling sites, wells, and storage tanks.**

LEAD & COPPER RULE: 310 CMR 22.06B

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

- Lead and Copper sample results are required to be submitted to the DEP by the 10th day of the following month. Assabet Water Company is required to sample for Lead and Copper at the following frequency:

PWSID	NO LCR SAMPLES	LCR SAMPLE FREQ
2286001	10	YEAR

- The system does have an approved Lead and Copper Sampling Plan.
    - The next lead and copper sample round is scheduled to be collected during July-September (Quarter 3) 2004.
- The Assabet Water Company is currently within the 90th percentile (0.015 ppm) lead action level.
- The Assabet Water Company is currently within the 90th percentile (1.3 ppm) copper action level.
    - The system has submitted a desktop study, and implemented corrosion control treatment to reduce lead and copper at customer's taps.

SURFACE WATER TREATMENT RULE-Ground Water Systems: 310 CMR 22.20A

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Community Systems

- The following ground water sources of Assabet Water Company are subject to 310 CMR 22.20A, the SWTR. Each source must be evaluated by the DEP to determine if it is "under the influence of surface water".

SOURCE ID	SOURCE NAME	STATUS	AVAIL_	TYPE	POLLUTION _ SOURCES	EXEMPT	CRITERIA	MPA_Test _ Required?	SET BACK	COMMENTS
2286001-01G	GP WELL # 1	A	INACT	GWUDI		NON-EXEMPT		YES-DONE		Previously exempt;SW encroachment due to Beaver Damming;-well currently off-line
2286001-02G	GP WELL # 2	A	ACTIVE	SGWNP		EXEMPT	M	YES-DONE		Previously exempt-beaver encroachment. -MPA OK (primary well)

Department records show the following MPA results collected by the Assabet Water Company:

SOURCE ID	DATE	RESULTS	DATE	RESULTS	DATE	RESULTS	DATE	RESULTS
2286001-01G	11/16/1998	MOD	5/18/1999	LOW	5/25/2000	MOD	10/11/2000	MOD
2286001-02G	11/16/1998	MOD	5/18/1999	LOW	5/4/2000	LOW	10/11/2000	LOW

- Some sources may have been previously exempt from the SWTR as they meet one or more of the following criteria:
  1. The source meets the "setback" criteria. The sand and gravel source is located 150 feet or more horizontally from a surface water feature. A surface water feature is defined as an area continuously inundated with flowing or standing water.
  2. The source meets the confining layer criteria. The source was constructed with a sanitary seal, and the screens are separated from surface water features by a confining layer.
  3. Well Construction, pumping, history and water quality criteria (gravel pack sources only).
  4. The source meets the setback criteria. The bedrock source is located 200 feet or more horizontally from a surface water feature.

  M. Microscopic Particulate Analysis (MPA) testing was conducted on the source and was determined to be a LOW risk.

  E. The source has been designated an emergency status. Emergency sources must receive DEP approval prior to being placed on-line.

- For those sources that have not been determined exempt, the system must either:
  - Submit a "Community Groundwater Exemption Application";
  - Conduct MPA testing for a minimum of two seasons: once during August 15th- October 15th (Fall) and again between April 1st – May 30th (Spring); or
  - Provide filtration in compliance with 310 CMR 22.20A.

Please be aware that the status of each exempt source may be re-evaluated by the DEP during a sanitary survey or other inspection. Further testing or analysis may be required by DEP on a case-by-case basis pending changes in local conditions including: water quality, setbacks, encroachment of surface water, flooding, wellhead integrity, etc.

- Assabet Water Company's sources have been re-evaluated by the Department. The Department has determined:
  - Conditions at both wells have improved slightly in that encroachment of surface water has receded somewhat. The Department's determination that Well #1 is influenced by surface water, based upon observed surface water encroachment and results from MPA, and thus filtration is warranted remains unchanged. Assabet Water Company has removed this source from service plans to reactivate it with required treatment.
  - Conditions at Well #2 have improved slightly and given the history of "low risk" MPA results for this source the exemption determination remains unchanged. No further MPA testing required at this time.

DISINFECTION BY-PRODUCT RULE (DBP): 310 CMR 22.07E

Assabet Water Company currently **does not meet** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Pursuant to 310 CMR 22.07E, the DBP rule is applicable to community systems and non-transient community water systems, which add a chemical disinfectant (oxidant) to the water in any part of the drinking water process.

- **January 1, 2002**, Surface water systems and ground water systems under the direct influence of surface water serving a population equal to or greater than 10,000.
- **January 1, 2004**, Surface water systems and ground water systems under the direct influence of surface water serving a population less than 10,000 and all groundwater systems.

The DBP Rule establishes Maximum Contaminant Levels for Bromate (plants that use ozone) and Chlorite (plants that use chlorine dioxide). It also establishes Maximum Residual Disinfectant Levels (MRDLs) for chlorine, chloramines and chlorine dioxide. In addition, the Disinfection By-Products Rule has many daily/monthly monitoring and reporting requirements for disinfectant residuals such as chlorine dioxide, chlorite, chloramines, chlorine, and bromate.

TTHM & HAA5

- The system has submitted a DBP monitoring plan.
- The system is required to conduct TTHM and HAA5 routine monitoring at one (1) distribution sample site, 4 Kirkland Drive, each year.
- The system is not on reduced monitoring for TTHM and HAA5.

CHLORINE/CHLORAMINES

- The system is measuring and reporting each month the residual disinfection level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled.

- The system **is not** submitting completed Chlorine/Chloramines Report to the Department on a monthly basis. A disinfectant level is reported for each coliform sample collected in the distribution system. The sites reflect those of the approved coliform sampling plan.

INORGANICS (IOCs) including Nitrate & Nitrite: 310 CMR 22.06

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Pursuant to 310 CMR 22.06 Inorganics, groundwater systems are required to sample for inorganics every three years, unless the granting of an IOC waiver has reduced sampling. Surface water supplies are required to sample for inorganics every year, unless the granting of an IOC waiver has reduced sampling.

Pursuant to 310 CMR 22.06(7) Nitrate, all systems are required to sample for nitrate annually. The repeat monitoring frequency is quarterly for at least one year following any one sample in which the concentration is ≥50% the MCL.

Pursuant to 310 CMR 22.06(8) Nitrite, all systems are required to sample for nitrite every three years. The repeat monitoring frequency is quarterly for at least one year following any one sample in which the concentration is ≥50% the MCL.

- A review of Assabet Water Company most recent inorganics, nitrate and nitrite data (collected August 2003) has shown little to no detected contaminants. Assabet Water Company has been granted a source waiver for inorganics.

RADIONUCLIDE RULE (Community Systems): 310 CMR 22.09A

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Pursuant to 310 CMR 22.09A the revised Radionuclide Rule, all community water systems are required to conduct initial monitoring for radionuclides by December 31, 2007. Based on the results, the Department may allow systems to reduce the future frequency of monitoring from once every three years to once every six or nine years. Compliance with initial monitoring requirements are based on:

- the average of four consecutive quarters of baseline sampling conducted between 2004 – 2007 at each entry point (after any treatment) to the distribution system, or
- the availability of *grandfathered data* - gross alpha and radium 228 data collected between June 1, 2000 and December 8, 2003 at each entry point (after any treatment) to the distribution system.

Compliance with gross alpha, radium 226/228 combined, and gross beta MCLs are currently evaluated by the DEP. The revised rule also sets an MCL for uranium at 30 ug/l. Uranium is required to be tested if gross alpha results exceed 15 pCi/l.

The DEP Office of Research and Standards (ORS) has established a guideline for radon at 10,000 pCi/l. Radon is currently optional or may be required to be tested by the DEP on a case-by-case basis. In those instances where radon levels have exceeded the guideline, the DEP in conjunction with ORS will make an evaluation to determine any necessary correction action measures.

- A review of Assabet Water Company most recent radionuclide data collected September 2003 has shown little to no detected contaminants.

SYNTHETIC ORGANIC CONTAMINANTS (SOCs): 310 CMR 22.07A

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Pursuant to 310 CMR 22.07A Synthetic Organics, systems serving less than or equal to 3300 persons are required to sample for synthetic organic contaminants every three years, unless sampling has been reduced by the granting of a SOC waiver. Systems serving 3300 or more persons are required to sample for synthetic organic contaminants twice within the same year during every three-year compliance period, unless the granting of an SOC waiver has reduced sampling.

- A review of Assabet Water Company most recent synthetics data has shown little to no detected contaminants. Assabet Water Company received a waiver from monitoring for Synthetic Organics during 1999-2001 and 2002-2004.

VOLATILE ORGANIC CONTAMINANTS (VOCs): 310 CMR 22.07B

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Pursuant to 310 CMR 22.07B Volatile Organics, community and non-transient non-community water systems are required to initially sample for volatile organic contaminants (including MTBE) four consecutive quarterly samples for each source, during the initial compliance period. If results are acceptable, systems may then collect one sample annually for each source, unless the granting of a VOC waiver has further reduced sampling. In no circumstances shall a system collect VOC samples less than once every three years.

- A review of Assabet Water Company most recent volatile organics data has shown little to no detected contaminants. Low concentrations of disinfection byproducts (chloroform and bromodichloromethane) were observed in a sample collected July 2002 and are likely a result of the system's treatment process, which involves the addition of chlorine post treatment.

SECONDARY CONTAMINANTS: 22.07D

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

Pursuant to 310 CMR 22.07D Secondary Chemical Standards, secondary maximum contaminant levels (SMCLs) are applicable to all public water systems.

Secondary contaminant monitoring is currently optional or may be required to be tested by the DEP on a case-by-case basis. In those instances where contaminant levels have exceeded established guidelines or SMCLs, the DEP in conjunction with ORS will make an evaluation to determine any necessary correction action measures.

- **No recent data available. The Department recommends that Assabet Water Company conduct at least a one-time test of the finished water from each source in order to establish a current water quality baseline.**

MONITORING DATA: 310 CMR 22.15

The system does not have unaddressed water quality data that has been previously rejected by the DEP.

Systems are required to submit responses to all Department rejected monitoring data within 30 days. Failure to correct and resubmit monitoring information may result in enforcement action by the

Department.

WATER QUALITY VIOLATIONS:

Assabet Water Company has incurred the following water quality / monitoring violations:

PWSID	ACT_TYPE_DESCRP	GROUP	CHEMICAL_NAME	PERIOD START	PERIOD END	COMMENT
2286001	MONTHLY MCL (TCR)	BACT	TOTAL COLIFORM	10/1/1998	10/31/1998	NON-CE-99-5024 /RTC - BACT. OCT'98
2286001	MONITORING, REGULAR	RADIO		7/1/1996	9/30/1996	NON-CE-97-5189
2286001	MAJOR ROUTINE M/R (TCR)	BACT	TOTAL COLIFORM	8/1/1995	8/31/1995	NON-CE-95-5292/RTC
2286001	MONITORING, REGULAR	NITRAT	NITRATE	4/1/1993	6/30/1993	NON-CE-93-5151/RTC-CE-93-5151

RESOURCE PROTECTION:

310 CMR 22.04, 22.21, 22.20B, 22.20C, 36.00

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water Program, guidelines and policies for this section.

GROUNDWATER SOURCES: ZONE I

The protection of a groundwater recharge area is critical to maintaining a safe and ample supply of water. Protection zones become more critical to water quality, and the activities within the zone more restrictive, as the wellhead is approached. Zone I is the most vulnerable and restrictive protection zone around a well. Depending upon pumping volume, a Zone I ranges from a radius of 100 to 400 feet around the wellhead. The Guidelines and Regulations specify that only activities that are both directly related to the water system and non-threatening to water quality occur within this zone. The Zone I should be owned or controlled by the water supplier.

GROUNDWATER SOURCES: IWPA

The Interim Wellhead Protection Area (IWPA) is less vulnerable and encompasses a larger area around a wellhead. An IWPA is that area of an aquifer that contributes water to a well under the most severe pumping and recharge conditions, which can be realistically anticipated. The IWPA is based upon the approved yield of the well and ranges from a 400-foot to a one half-mile radius. This area is not required to be owned or controlled, however the Assabet Water Company should be aware of the land use activities occurring within the IWPA as they can affect the water quality of the well(s).

Listed below is the Zone I and IWPA radius for each well, the method of calculation used, whether or not the system completely owns or controls the Zone I, and any prohibited or inappropriate activities within the Zone I. If the well has not been assigned a DEP approved yield based upon a pumping test, the DEP has either assigned a Zone I radius based upon metered withdrawal records or Title 5 septic design figures.

Method of Zone I & IWPA Determination

P = DEP approved pumping rate by DEP approved pumping test
M = Metered water withdrawal records
T = Title 5 septic design figures
D = Default rate assigned by DEP until better data is available
A = Assigned rate by DEP (such as Zone II rate without DEP approved pumping test)

SWAP Database Information:

SOURCE ID	SWAP Method	Zone I (ft)	IWPA (ft)
2286001-02G (Well #1-in pumphouse)	A	300	Zone II
2286001-01G (Well #2)	A	300	Zone II

Conceptual Zone II completed by Earth Tech January 2000; approved by DEP October 20, 2000 for combined rate of 59 gpm or 0.085 MGD for 01G and 02G.

Note: For NC and other COM systems, posting of DW supply area signs would be an example of an acceptable WHP plan.

SOURCE ID	APPROVED VOLUME(MGD)	ZONE_I_ OWNED	WELLHEAD_ PROT_PLAN	Method	Pollution Sources in Zone I
2286001-02G	0.085	Y	Y	M	Surface water encroachment

- The system is accurately reporting land use activities in Section F of its 'Annual Statistical Report'.
- The system has not experienced any new threats or protection concerns within the last year, e.g. beavers, new development.

Assabet Water Company is in conformance with 310 CMR 22.21(3)(b), which requires ownership or control of the Zone I around its well. The Assabet Water Company does completely own or control the Zone I radius around its well(s) as listed above.

Assabet Water Company is in conformance with 310 CMR 22.21(1)(a)(5), which requires Zone I activities be limited to those directly related to the provision of public water. Prohibited activities were not identified within the Zone I of its well(s).

Pursuant to 310 CMR 22.04(1) and 22.21(1)(a) you must notify the DEP if you plan to modify or expand your system or to replace any wells. At the time of such notification of a proposed modification or expansion, DEP may require you to comply with the Zone I ownership and activities requirements listed above.

GROUNDWATER SOURCES: ZONE II and ZONE III

Zone II means that area of an aquifer that contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at approved yield, with no recharge from precipitation). Zone III means that land area beyond the area of a Zone II from which surface water and groundwater drain into the Zone II. All public water supply wells or wellfields designed to pump over 100,000 gallons per day should have a delineated Zone II and Zone III.

310 CMR 22.21 of the drinking water regulations outlines criteria to protect groundwater sources from contamination including the adoption of wellhead protection zoning and non-zoning controls. These may include but are not limited to criteria for the prohibiting of landfills, junkyards, stockpiling and disposal of snow or ice, petroleum/fuel bulk stations, floor drains, facilities that handle hazardous material, earth removal activities, and processed wastewater discharges. Municipalities are required to develop a Wellhead Protection Plan that includes zoning or non-zoning controls as a by-law. Non-municipal systems (e.g., Water Districts and Water Companies) must demonstrate "Best Effort" in providing wellhead protection. The DEP encourages all groundwater systems to develop a Wellhead Protection Plan.

- The Assabet Water Company currently does not have any groundwater sources that pump greater than 100,000 gallons per day.
- The Assabet Water Company is encouraged to adopt wellhead protection plan for these sources either as a by-law, amended by-law, or through the establishment of an aquifer protection district.
- The DEP does not have a record indicating that Assabet Water Company local by-law, ordinance or board of health regulation complies with current wellhead protection regulations, including a local floor drain regulation. Please contact Catherine Sarafinas at the DEP Boston Office at 617-556-1070 for technical assistance in this process.
- The following sources of the Assabet Water Company currently have a DEP approved Zone II/Zone III.

SOURCE ID	SOURCE NAME	APPROVED VOLUME (MGD)	LAST YEAR AVERAGE (MGD)	APPVD_ ZONE_II	ZONE_II_ NUMBER	COMMENTS
2286001-01G	GP WELL #1	0.085		Y	483	APPROVED YIELD IS COMBINED 01G & 02G
2286001-02G	GP WELL # 2	0.085	0.062269	Y	483	APPROVED YIELD IS COMBINED 01G & 02G YIELD, INST 1978 70GPM

SOURCE WATER ASSESSMENT PROGRAM (SWAP)

DEP is completing source water assessments of the susceptibility of drinking water supplies to contaminant threats in their water supply protection areas for all community water systems in Massachusetts, as required by the 1996 Safe Drinking Water Act Amendments. All assessments should be complete by May 2003. The assessment is based on an examination of potential contamination sources derived from existing DEP databases, site inspections and other available information.

- The Department of Environmental Protection (DEP) **has** prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

- A susceptibility ranking of **moderate** was assigned to this system using the information collected during the assessment by the DEP.

The SWAP Report notes the key issues in the water supply protection area for each source. ***Please refer to the 'Discussion' section of the SWAP Report.***

The report may contain commendations on the water system's existing source protection measures as well as recommendations on improving source protection. It is suggested that the system implement plans to address SWAP recommendations. DEP staff are available to assist local official and water suppliers in updating assessments; improving water supply protection and developing educational programs. ***Contact DEP Central Region SWAP Coordinator Josephine Yemoh-Ndi at 508-849-4030.***

CONSUMER CONFIDENCE REPORT (CCR): 310 CMR 22.16A

Assabet Water Company currently **meets** the requirements of the regulations of the Drinking Water

Program, guidelines and policies for this section.

Community water systems must provide to its consumers an annual report, which includes information on the water, delivered by the system for the previous calendar year and characterizes the risk (if any) from exposure to contaminants in the drinking water in an accurate and understandable manner. The report is to include water system information, source information, source protection information, required health effects statements, definition of terms, detected contaminants in finished water, compliance with drinking water regulations, and required educational information.

Specifically, each report must contain relevant information to provide customers with an accurate picture of the level of contaminants they may have been exposed to during the year. The information must be derived from data collected to comply with the EPA and State monitoring and analytical requirements. Where a system is allowed to monitor for certain contaminants less often than once a year, the report must include the results and date of the most recent sampling and a brief explanation.

Community water systems must deliver the report to its consumers, the DEP and all other appropriate authorities by July 1st of each year.

Please refer to the DEP website and the following documents for technical assistance, or you may contact Elizabeth Kotowski of the DEP Central Region at 508-767-2779.

- Recommended Tips For Preparing User Friendly Consumer Confidence Reports is available for mailing from your DEP Regional Office.
- Appendix to Recommended Tips For Preparing User Friendly Consumer Confidence Reports available at http://www.state.ma.us/dep/brp/dws/ccr.htm

MONITORING WAIVERS

The Department of Environmental Protection (DEP) is offering the opportunity for monitoring waivers to public water suppliers (PWSs) for the current compliance period. For PWSs that meet the source protection requirements and have had clean monitoring results, waivers can provide significant cost savings by reducing or eliminating routine monitoring for certain contaminants. Monitoring Waivers are being offered for Volatile Organic Compounds (VOC), Synthetic Organic Chemicals (SOC) and Inorganic Chemicals (IOC).

Monitoring waiver applications are available on the DEP website at http://www.state.ma.us/dep/brp/dws/dwspubs.htm. If you need technical assistance please contact DEP's Training Consortium Partners: New England Water Works Association (NEWWA), Massachusetts Water Works Association, RHI -The Northeast Rural Community Assistance Program (RCAP) and Northeast Rural Water Association (NeRWA) via Mike Maynard of the Drinking Water Program at Michael.Maynard@state.ma.us (617) 556-1106 or Jeff Fencil at (508) 893-7979 of NEWWA.

OUTSTANDING INSPECTION ACTIONS

Assabet Water Company currently has prior outstanding inspection actions that must be addressed..

- **Continued failure to comply with the required actions listed below may result in further enforcement action.** Refer to DEP Enforcement Policy section of this report.

PWSID	INS DATE	DEP STAFF	INS TYPE	INS COMMENTS	ACTION DEADLINE	ACTION COMPLETE	MILESTONE ACTION
2286001	12/21/1998	AQUINO	SAN	FOLLOW UP ON SEP CCE; CUSTOMERS COMPLAINING	4/1/1999		SUBMIT COPY OF CLEANING BILL FOR

				OF IRON IN H20		STORAGE TANKS
2286001	12/21/1998	AQUINO	SAN	FOLLOW UP ON SEP CCE; CUSTOMERS COMPLAINING OF IRON IN H20	4/1/1999	SUBMIT O&M MANUAL FOR TREATMENT

OUTSTANDING ENFORCEMENT ACTIONS

Assabet Water Company currently does not have prior outstanding enforcement actions that must be addressed.

CAPACITY DETERMINATION:

310 CMR 22.04 & Ch. 11 Guidelines & Policies

Capacity is the ability of a public water system to plan for, achieve, and maintain financial, managerial and technical compliance with applicable federal and state drinking water standards for the foreseeable future. Capacity also requires the demonstration of effective controls in all three areas.

The Assabet Water Company **is determined to have conditional capacity**. Systems with conditional capacity currently meet MA DEP drinking water regulations but have issues that need to be improved. Please refer to the attached Compliance Plan(s) for the specific items and the required completion date(s). Please note failure to address these items as required may result in your system ineligibility to receive SRF funding.

UNDERGROUND INJECTION CONTROL (UIC)

UIC Referrals: Within a Zone 1 or Zone II/ IWPA, industrial facilities managing hazardous materials (e.g., auto repair garage, dry cleaner, machine shop, furniture stripping, etc.) should be referred to the UIC Program for a possible inspection. UIC inspectors will address unauthorized discharges to the ground (e.g., via a floor drain leading to a dry well or septic system) in such facilities. The threat may be less in sewered areas as determined on a case-by-case basis. Contact Kurt Jacobson at 508-767-2731 or Ken Pelletier at 617-348-4014.

PUBLIC NOTIFICATION RULE

This rule applies to all public water systems and is currently in effect (310 CMR 22.16). The public notification requirements depend upon the nature of the violation which utilize the following tier system:

Tier 1. Violations where the water quality may pose an immediate health threat (e.g., fecal coliform/E. coli, chlorine dioxide). Consultation with DEP and public notification within 24 hours is required.

Tier 2. Other violations with potential for adverse effects on human health with long-term exposure (e.g., non-acute MCL, MRDL, treatment technique violations). Public notification is required within 30 days.

Tier 3. All violations not included in Tier 1 or 2 (e.g., failure to monitor/report results). Public notification is required within 12 months of the violation, and with DEP approval, may be part of the annual Consumer Confidence Report for community water systems.

Refer to the Drinking Water Regulations, 310 CMR 22.16, for specific content and distribution

requirements. In general the public notice must provide a clear and readily understandable explanation of:

- the violation;
- when it occurred;
- any potential health effects;
- the population at risk;
- whether alternate water supplies should be used;
- preventative measures the consumer should take;
- steps the system is taking to correct the violation;
- when the system expects to return to compliance;
- who to contact for more information; and
- standard distribution language.

Public water systems must also submit a certification form to the Department within 10 days of issuing public notice.

More detailed instructions, recommended templates, and the certification form, are available at the website: http://www.state.ma.us/dep/brp/dws/publnot.htm

FUTURE REGULATORY REQUIREMENTS

RADON

Although the development by the Environmental Protection Agency of the final Radon Rule has been delayed beyond the court-ordered deadline of April 30, 1995, completion of the Rule may be part of the re-authorization of the Safe Drinking Water Act. Preliminary indications are that the Rule may establish a new radon standard for community public water systems as low as 300 pCi/L, with a new interim standard at 4000 pCi/L. These potential levels are a dramatic reduction from the current Massachusetts standard of 10,000 pCi/L.

ARSENIC

On October 31, 2001 the EPA a finalized a regulation to reduce the public health risks from long-term chronic exposure to arsenic in drinking water for community and non-transient non-community systems. The revised Maximum Contaminant Level (MCL) for arsenic has been lowered from 50 ppb to 10 ppb (0.01 mg/L). EPA will require compliance with this MCL by January 1, 2006. EPA has determined that inorganic arsenic is a human carcinogen based on evidence from studies of human populations. Guidance documents and treatment alternatives on arsenic can be found at http://www.epa.gov/OGWDW/arsenic.html

GROUNDWATER DISINFECTION RULE

The most speculative of the potential future Regulations is the forthcoming Groundwater Disinfection Rule. Although little is currently known about this potential Rule it is likely that implementation will allow systems using groundwater sources to demonstrate that disinfection is not necessary.

LONG TERM 1 ENHANCED SURFACE WATER TREATMENT RULE- 310 CMR 22.20F

310 CMR 22.20F establishes requirements for filtration and disinfection that are in addition to criteria under 310 CMR 22.20A. The requirements of 310 CMR 22.20F apply to public water systems serving fewer than 10,000 people using a surface water source or ground water source under the direct influence of surface water, **beginning January 1, 2005** unless otherwise specified. 310 CMR 22.20F establishes or extends treatment technique requirements in lieu of maximum contaminant levels for the following contaminants: *Giardia lamblia, Viruses, Heterotrophic plate count bacteria, Legionella, Cryptosporidium, and Turbidity.*

The rule establishes additional compliance criteria for: finished water reservoirs, additional watershed control requirements for unfiltered systems, disinfection profiling, disinfection benchmarks, combined filter effluent requirements, individual filter turbidity requirements and reporting and record keeping.

FILTER BACKWASH RECYCLING RULE- 310 CMR 22.20E

Applies to systems that use conventional filtration, direct filtration, softening, or contact clarification treatment and that recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes.

Reporting requirements in 310 CMR 22.20E(2). If the system recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes it shall notify the Department in writing by December 8, 2003. This notification shall include, at a minimum, the information specified in 310 CMR 22.20E(2)(a) and 310 CMR 22.20E(2)(b).

Treatment technique requirements in 310 CMR 22.20E(3). Backwash flows must be returned through the processes of a system's existing conventional filtration, direct filtration, softening, or contact clarification system or at an alternate location approved by the Department by June 8, 2004. If capital improvements are required to modify the recycle location to meet this requirement, all capital improvements shall be completed no later than June 8, 2006.

Record keeping requirements in 310 CMR 22.20E(4). The system shall collect and retain on file recycle flow information specified in 310 CMR 22.20E(4)(a) through 310 CMR 22.20E(4)(f) for review and evaluation by the Department beginning June 8, 2004.

DRINKING WATER STATE REVOLVING FUND (SRF) PROGRAM

SRF LOANS

As a result of the 1996 amendments to the Safe Drinking Water Act (SDWA) DEP has made available money in the form of low interest loans for drinking water related projects.

In 1998 the Drinking Water State Revolving Loan Fund (DWSRF) began providing zero interest loans to qualified public water systems. As of 2002 these loans are available at a 2% interest rate. The funds will help finance the cost of infrastructure improvements needed to achieve or maintain compliance with the Safe Drinking Water Act. The DWSRF is divided into two funding specific projects as well as program support funding. Applications for funding must be submitted to DEP by May of each year for eligibility. For more information contact Paul Anderson of the DEP Central Regional Office Drinking Water Program at 508-767-2802.

In addition to the DWSRF, state legislation has also established a separate pool of state funding for "grandfathered" projects bonded between 1992 and the passage of the legislation.

DEP Enforcement Policy:

A new DEP enforcement policy has been developed to enhance the fairness, consistency, predictability, deterrence value and efficiency of the DEPs enforcement process. It is important that you, as a Public Water Supplier, understand this policy and its potential impact.

In summary, this policy mandates that DEP take increasingly severe enforcement actions for violations such as:

a) Failure to complete all of the items required within a Notice of Noncompliance.
b) A repeat of a violation for which DEP has previously issued a Notice of Noncompliance.

c) Failure to complete corrective actions **required** within a Comprehensive Compliance Evaluation or Sanitary Survey report.

The enforcement will, in most instances, take the form of a monetary penalty. In certain limited instances a monetary penalty may be avoided if the water supplier formally agrees to corrective actions through an Administrative Consent Order.

Additionally DEP will no longer be issuing verbal or written warning letters when violations are noted. All violations will result in a formal enforcement action.

Technical Assistance

DEP Central Region 508.792.7650
627 Main Street
Worcester, MA 01608

DEP Boston (Main Office) 617.292.5770
One Winter Street, 6th Floor
Boston, MA 02108

DEP Certified Operator Requirements 617.556.1191 or 617.292.5770
Contact for temporary certification, training, and training guidance.
http://www.state.ma.us/reg/boards/dw/default.htm

DEP Wall Experiment Station 978.682.5237

DEP Drinking Water Home Page
http://www.state.ma.us/dep/brp/dws/dwspubs.htm
The program's home page includes links to a variety of other sites, including other DEP bureaus and state environmental agencies.

US Environmental Protection Agency (EPA) Region 1-Source Water Protection 617.656.3616 or 617.565.4721 *Contact for New England resource protection issues, cross-state resource protection and national legislation.* http://www.epa.gov

DEP Comment Box
E-mail the Drinking Program with your suggestions or comment on rules or regulations by e-mail.
DWP.Comment@state.ma.us

Safe Drinking Water Act Hotline (EPA) 800.426.4791 (9AM – 5PM EST)
The Hotline's primary function is to assist the regulated community and the public with the regulations and programs developed in response to the Safe Drinking Water Act Amendments. Also contact for information on water quality, drinking water, technical publication, public education materials, and source protection planning.

DEP "In the Main" 617.292.5931
Newsletter published by the DEP-Drinking Water Program to inform PWS officials about new state and federal activities, regulations, training programs, and workshops.
http://www.state.ma.us/dep/brp/dws/files/itm.pdf

Northeast Rural Water Association (NeRWA) 802.660.4988 *Primary aim to help small system operator provide an adequate supply of quality water to rural residents and to help the system meet SDWA requirements. NeRWA's free services include certified operator training and on-site assistance with sampling, maintenance, and operations.*

Rural Community Assistance Program (RCAP/RHI) 978.297.5300 or 800.488.1969
Provides Training and technical assistance to rural communities on improving their drinking water systems. These services are provided at no cost to the group or community involved.

National Drinking Water Clearing House 800.624.8301 *Services provided: Free newsletters: "On Tap" and "Water Sense"; free telephone consultations; computer bulletin board; referrals; products (educational, government publications etc.)*

UMASS Extension, Natural Resources and Environmental Conservation Program 413.545.2188 *Contact for watershed protection, public education materials, wastewater management, septic systems, capacity building and non-point source pollution.*

Watershed Associations 617.727.1614 *Contact for watershed resource issues, protection, water sampling, data collection, recreational and educational events. Contact River ways Program for listing at number above.*

Massachusetts Water Works Associations (MWWA) 978.692.0199 *Professional association for waterworks industry. Contact for operator training, educational materials, and newsletter.*

New England Water Works Association 508.478.6996 *Professional association for waterworks industry. Contact for training courses, cross connection prevention, public information and assistance.*

American Water Works Association 800.366.0107 *or 800.426.4791 A service for small water systems serving 1000 connections or less.*

Natural Resource Conservation Service 413.253.4350 *Contact for soil conservation assistance and maps.*

SANITARY SURVEY COMPLIANCE PLAN RESPONSE FORM for TABLE A & B

Within 45 days of receipt of this inspection report, you must complete and submit this response form if your system has TABLE A –Violations and/or TABLE B-Deficiencies. Attach a copy of each completed table listing the date that the corrective action was or will be taken by your system and all other applicable documentation

Please note that violations listed in TABLE A of the Compliance Plan are also a Notice of Noncompliance (NON) pursuant to M.G.L. c.21A, §16 and 310 C.M.R. 5.00 and may require the submission of quarterly written progress reports on the identified violations.

The following corrective actions listed in the Sanitary Survey Compliance Plan(s) TABLE A and/or B has been taken by the public water system. (Please check all that apply).

☐ My system has taken **ALL** of the corrective actions listed within the timeframes specified in the Sanitary Survey Compliance Plan(s).

- For each item, I have listed the completion date of the corrective action within each table.
- I have attached copies of supporting documentation as required.

☐ My system has taken **SOME BUT NOT ALL** of the corrective actions listed within the timeframes specified in the Sanitary Survey Compliance Plan(s). My system **HAS NOT** complied with **ALL** of the requirements set forth in the Sanitary Survey Compliance Plan(s).

- For each item, I have listed the actual or anticipated completion date of the corrective action within each table.
- I have attached copies of supporting documentation as required.
- I have attached a revised corrective action schedule establishing timelines for my system to address outstanding items and I will submit a written progress report each quarter (every 3 months) until all items have been addressed.

☐ My system is **UNABLE** to comply with some or all of the corrective actions within the timeframes specified in the Sanitary Survey Compliance Plan(s). I understand that my system may be subject to further enforcement action.

- An explanation is attached.

I hereby acknowledge receipt of the inspection findings and compliance plan table(s) of the sanitary survey conducted by the Department of Environmental Protection's Drinking Water Program. I certify that under penalty of law I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best of my knowledge and belief.

Water Commissioner, Owner, Owner Representative or Other Responsible Party:

Signature:_____ Date:_____

Print Name:_____ Title:_____

Signature:_____ Date:_____

Print Name:_____ Title:_____

Signature:_____ Date:_____

Print Name:_____ Title:_____

Return this form, a copy of each Compliance Plan Table and all attachments to:

DEP-BRP Drinking Water Program
627 Main Street
Worcester, MA 01608

Please note that this Compliance Plan is also a Notice of Noncompliance (NON) pursuant to M.G.L. c.21A, §16 and 310 C.M.R. 5.00. Please review the items noted in the report and Compliance Plan.

Within 45 days of receipt of the NON and inspection report, you must fill-in the corrected date(s) and submit this form to the DEP and the attached SANITARY SURVEY COMPLIANCE PLAN RESPONSE FORM, including all applicable attachments. If the time required to complete the correction is greater than 3 months, submit quarterly progress reports and provide an anticipated completion date.

#	T/ F/ M	Regulation or Statute Citation	**SANITARY SURVEY COMPLIANCE PLAN** TABLE A - VIOLATIONS **Corrective Actions**	Deadline for Taking Corrective Actions	Corrected Date by PWS
1.	M	310 CMR 22.04	A copy of the Operations & Maintenance Manual must be developed and kept on-site at the Assabet Water Company office. This deficiency was noted in a previous sanitary survey. Inform the Department in writing once this action has been completed.	15-AUG-2004	
2.	T	310 CMR 22.04 & Chap. 8 Guidelines	Assabet Water Company must have both storage tanks inspected. The Public Water System must implement recommendations from the inspection unless otherwise directed by the Department. Provide a copy of the inspection report to the Department.	01-JAN-2006	

T=Technical, F=Financial, M=Managerial
MA Drinking Water Regulations 310 CMR 22.00

The DEP has made note of several items that do not reflect good water system practice and, if left unresolved, could lead to problems that are more serious. Some of these items may be potential violations, and are summarized below. Due to the item's severity or importance the DEP has included a required course of action with a compliance date. The DEP looks forward to a timely completion of the actions identified in the table below.

Within 45 days of receipt of the NON and inspection report, you must fill-in the corrected date(s) and submit this form to the DEP and the attached SANITARY SURVEY COMPLIANCE PLAN RESPONSE FORM, including all applicable attachments. If the time required to complete the correction is greater than 3 months, submit quarterly progress reports and provide an anticipated completion date.

SANITARY SURVEY COMPLIANCE PLAN
TABLE B - DEFICIENCIES

#	T/F/M	Regulation or Statute Citation	Corrective Actions	Deadline for Taking Corrective Actions	Corrected Date by PW
1.	M	310 CMR 22.11B	Assabet Water Company must submit a revised Public Water System Staffing Plan for DEP review and approval. Please note that certain licenses were incorrectly reported on the 2003 annual statistics report. According to the Board of Professional Licensure, the licenses for Carlos Santa and Matthew Bacinskas are "Operator In Training (OIT)" not Full status.	15-JUL-2004	
2.	T	310 CMR 22.04, 22.21, Guidelines Chap 4	Well #2 vault access hatch must be made watertight and the hole must be sealed.	01-SEP-2004	
3.	T	310 CMR 22.04, 22.21, Guidelines Chap 4	Well #2 vault must be properly vented and screened.	01-SEP-2004	
4.	T	310 CMR 22.04, 22.21, Guidelines Chap 4	Well #2 vault drains must be located and properly screened.	01-AUG-2004	
5.	T	310 CMR 22.04	Relocate feed line to eyewash station so that it is using untreated water.	01-OCT-2004	
6.	T	310 CMR 22.04(5)	Flow interlock capabilities must be provided such that the chemical feed pumps are not activated until a minimum of 90% of the operating flow is registered. (Permit approval letter – 12/6/2001)	01-OCT-2004	

#	T/ F/ M	Regulation or Statute Citation	**SANITARY SURVEY COMPLIANCE PLAN** TABLE B - DEFICIENCIES **Corrective Actions**	Deadline for Taking Corrective Actions	Corrected Date by PWS
7.	T	310 CMR 22.04	Containment for water supply chemicals utilized must be provided.	01-SEP-2005	
8.	T	310 CMR 22.04	An emergency shower must be provided.	01-SEP-2005	
9.	T	310 CMR 22.04	Access hatch to the chemical injection pit must be repaired and made watertight.	01-AUG-2004	
10.	T	310 CMR 22.04	The chemical injection pit must be rebuilt. (Structure showing signs of collapse.)	01-OCT-2005	
11.	T	310 CMR 22.04	The water lines from the pumphouse to the chemical injection pit and the main transmission line to the distribution system need to be replaced (found leaking and flow restriction observed).	01-OCT-2005	
12.	T	310 CMR 22.04(5)	Continuous pH monitoring system with alarm capabilities must be installed (Permit approval letter – 12/6/2001).	01-OCT-2005	
13.	T	310 CMR 22.06(5)	Asbestos sampling must now be included on your sampling schedule. For a public water system serving less than 1,000 people, one (1) sample, at a tap downstream from the oldest part of the AC pipe where the flow is sufficient to clean the pipe of debris, is required as the initial sample. Submit to the Department the location that best meets the criteria above for inclusion on your sampling schedule for asbestos monitoring.	01-AUG-2004	
14.	T	310 CMR 22.07B	Determine if the system contains any vinyl-lined AC pipe based on available records. Notify the Department of your findings. If you are unable to determine whether vinyl-line AC pipe was used in the distribution system, then identify a sampling location at each dead end in the distribution system for tetrachloroethylene (PCE) monitoring and report those locations to the Department. These locations are to be sampled and may be included in the sampling schedule in the future.	01-AUG-2004	

The DEP w·· ·ovide technical assistance to systems responding to corrective action· l recommendations to improve the protection of drinking water and r ·· health.
Please call your regional DEP office at 508.792.7650 for refer· the appropriate staff person or technical outreach provider.

#	T/ F/ M	Regulation or Statute Citation	SANITARY SURVEY COMPLIANCE PLAN TABLE B - DEFICIENCIES Corrective Actions	Deadline for Taking Corrective Actions	Corrected Date by PW
15.	T	310 CMR 22.19, 22.04 & Chap 11 Guidelines	Assabet Water Company must identify corrective actions to address system pressure and tank overflow problems.	31-DEC-2004	
16.	T	310 CMR 22.15, 22.04& Chap. 11 Guidelines	Assabet Water Company must take steps to address high unaccounted for water and ensure proper recording of water withdrawals including implementation of a service meter replacement program	31-DEC-2004	
17.	T	310 CMR 22.15, 22.04& Chap 11 Guidelines	Assabet Water Company must take steps to ensure proper recording of water withdrawals by repairing or replacing the master meter.	01-OCT-2005	
18.	T	310 CMR 22.19 & Chap. 9 Guidelines	Assabet Water Company must submit a copy of an updated water distribution system map to the Department. The map should include locations of: property boundaries, water sources, distribution system piping, water storage, buildings, roads, driveways, septic system/wastewater treatment facilities, dry wells, and fuel oil storage.	01-JAN-2005	
19.	T	310 CMR 22.04 & Chap. 8 Guidelines	Each tank vent and overflow pipe must be separate and properly screened.	01-JAN-2005	
20.	T	310 CMR 22.04 & Chap. 8 Guidelines	The storage tanks must be fenced to protect against vandalism.	31-DEC-2005	
21.	T	310 CMR 22.04 & Chap. 8 Guidelines	Provisions need to be made to allow for the isolation of each tank individually from the distribution system for service or repair.	31-DEC-2005	
22.	T	310 CMR 22.22	Submit a copy of the 2003 cross connection survey report to DEP.	01-SEP-2004	

The DEP will provide technical assistance to systems responding to corrective actions and recommendations to improve the protection of drinking water and public health. Please call your regional DEP office at 508.792.7650 for referral to the appropriate staff person or technical outreach provider.

#	T/ F/ M	Regulation or Statute Citation	SANITARY SURVEY COMPLIANCE PLAN TABLE B - DEFICIENCIES **Corrective Actions**	Deadline for Taking Corrective Actions	Corrected Date by PWS
23.	T	310 CMR 22.05	The Total Coliform Sampling Plan does have to be updated. o If a system conducts treatment, source water samples (RW) and entry-point finished water samples (PT) must be included in the Total Coliform Sampling Plan and sampled a minimum of once per month. o As part of its Total Coliform Sampling Plan the system must submit an updated map of its distribution system, which shows the locations of the bacteria sampling sites, wells, and storage tanks. The system **is not** reporting coliform sampling location codes or sample types accurately on its DEP report form submittals.	01-AUG-2004	
24.	T	310 CMR 22.07E	The system must submit completed Chlorine/Chloramines Report to the Department on a monthly basis.	01-JUL-2004	

T=Technical, F=Financial, M=Managerial

The DEP wi" -ovide technical assistance to systems responding to corrective actions -l recommendations to improve the protection of drinking water and p- -: health.
Please call your regional DEP office at 508.792.7650 for refer- the appropriate staff person or technical outreach provider.

The DEP has made note of items with a recommended course of action, summarized in Table C. It is strongly encouraged to follow the recommended actions in order to improve ability to provide a safe supply of drinking water. Failure to do so could eventually lead to violations of the regulations. The DEP looks forward to a timely completion of the recommended actions identified in the Findings and in the Sanitary Survey Compliance Plan Table C.

#	T/ F/ M	Regulation or Statute Citation	SANITARY SURVEY COMPLIANCE PLAN TABLE C - RECOMMENDATIONS Recommended Actions
1.	T	310 CMR 22.04, Guidelines Chap. 11	It is recommended that the flushing program be resumed once both wells are in full operation.
2.	T	310 CMR 22.05	It is recommended that sampling ports be available for each tank to allow for sampling of each tank individually.
3.	T	310 CMR 22.21	Assabet Water Company is not currently capable of producing the same volumes and quality of water as the system's primary well at all times by: ○ additional wells and pumping equipment; or ○ providing the storage capacity equivalent to the demand of at least two average days; or ○ an interconnection with another public water system that can adequately provide the quantity and quality of needed water. However, Assabet Water Company has submitted a permit application to install filtration for Well #1 so that it may be used as an additional well that can provide the quantity and quality of needed water
4.	T	Guidelines Chap. 11	The Department recommends that master meters be calibrated annually.
5.	T	310 CMR 22.07D	The Department recommends that Assabet Water Company conduct at least a one-time test for secondary contaminants of the finished water from each source in order to establish a current water quality baseline.

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http://www.state.ma.us/dep/brp/dws/files/310cmr22.pdf
WMA Regulations 310 CMR 36.00
http://www.state.ma.us/dep/brp/dws/files/31036.pdf
Guidelines & Policies for Public Water Systems
http://www.state.ma.us/dep/brp/dws/files/guides/guides.htm
Applications & Forms
http://www.state.ma.us/dep/brp/dws/dwsforms.htm

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Massachusetts DEP Drinking Water Program

COLIFORM SAMPLING PLAN

Please fill in the highlighted areas and return for approval to your DEP Regional Office

WS ID#: 2286001 PWS Name: Assabet Water Company PWS Town: Stow

Population Winter: 750 Population Summer: 750 Explain: 2003 Annual Statistical Report

No. of routine (RS) samples required:	2	per	Month
No. of raw water (RW) samples required:	1	per	Month
No. of plant tap (PT) samples required:	1	per	Month

* Sample Type, Sample Code#, and DEP Approved Sample Site must correspond to the sample columns on the DEP Total Coliform Report Form

Sample Type*	Sample Code#*	DEP Approved Sample Site* Sampling Point Name and Street Address	Sampling Frequency		
RS	001	50 Lowell Drive	1	per	Month
UR	1a	#36 Lowell Drive			
DR	1b	#117 Lowell Drive			
AR	1c	#70 Lowell Drive			
RS	002	Dunster Drive Storage Tanks	1	per	Month
UR	2a	#28 Dunster Drive			
DR	2b	#6 Dunster Drive			
AR	2c	#21 Dunster Drive			
PT	01T	Pumphouse 100ft. Sample Tap – Post Treatment (Entry Point)	1	per	Month
RW	02G	Well #2 Raw Water	1	per	Month
RW	01G	Well #1 Raw Water (OFF-LINE)	0	per	Month

Key to Sample Type Codes		
RS	Routine Sample site	(tap representative of the water system)
UR	Upstream Repeat sample site	(tap upline of the RS sample tap)
DR	Downstream Repeat sample site	(tap downline of the RS sample tap)
RW	Raw Water sample site	(untreated source water)
PT	Plant Tap sample site	(entry point-finished (treated) water sample tap)

Also attach a map or sketch of your water supply distribution system showing the locations of the bacteria sampling sites, wells, and storage tanks.

Public Water Supplier Signature: _____ DATE: _____

For DEP/DWP use

Total # of bacteria samples required per 310 CMR 22.05 ___4___ per __MONTH_____.

Action: _____ Date: _____

DWS Name: _____ Signature: _____

Massachusetts Department of Environmental Protection
Bureau of Resource Protection – Drinking Water Program

Public Water System Staffing Plan

310 CMR 22.11B

. PWS Information

PWS Name _____ PWS ID # _____

City/Town _____ Facility Distribution Grade _____

Facility Name _____ Facility Treatment Grade _____

Facility Location _____ Date _____

B. Operator Information - List all facility operators. Attach additional sheets as necessary.

A. Primary Distribution Operator	Position/Title	License # and Grade	OIT ☐ Full ☐
B. Secondary Distribution Operator	Position/Title	License # and Grade	OIT ☐ Full ☐
C. Additional Distribution Operator	Position/Title	License # and Grade	OIT ☐ Full ☐
D. Primary Treatment Operator	Position/Title	License # and Grade	OIT ☐ Full ☐
E. Secondary Treatment Operator	Position/Title	License # and Grade	OIT ☐ Full ☐
F. Additional Treatment Operator	Position/Title	License # and Grade	OIT ☐ Full ☐

C. Primary Operator Contact Information

Primary Operator Name _____ Work Phone # _____ / Home Phone# and/or Cell Phone# _____

Mailing Address _____ City, State, Zip _____ E-mail Address _____

D. Coverage / Staffing Information

What are the hours of operation of this treatment facility? hours/day_____ days/week____ weeks/year____

Does the treatment facility utilize an automated system such as SCADA to reduce staffing requirements per 310 CMR 22.11B(5)? Yes ☐ No ☐
Note if there are on-call or automated operations describe the notification procedure and response time in *Comments*.

Is this a satellite facility that is operated remotely? Yes ☐ No ☐

Use the codes (D, E, or F) from Section B to fill in the days when each operator is responsible for the treatment facility.

Treatment	Shift Hours	Monday - Friday	Saturday – Sunday	Holiday
Shift 1				
Shift 2				
Shift 3				

E. Comments

DEP Approved by: _____ Name _____ Date

Submit for approval to: DEP-BRP Drinking Water Program, 627 Main Street, Worcester, MA 01608